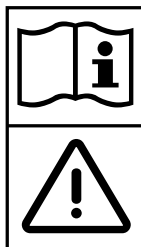
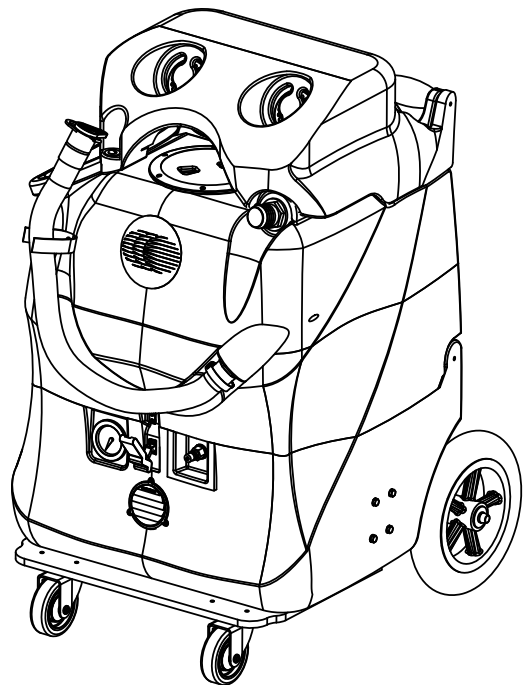




# SOLUS-500 EXTRACTOR 120V

## INFORMATION & OPERATING INSTRUCTIONS

MODEL: SOLUS-500-B



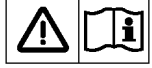
**DO NOT OPERATE MACHINE UNTIL YOU HAVE READ  
ALL SECTIONS OF THIS INSTRUCTIONS  
IMPROPER USE OF THE MACHINE WILL VOID THE WARRANTY**

1. Always use a defoamer when foaming occurs to prevent vacuum motor damage.
2. Keep machine from rain and snow, extremes in temperatures, and store in a heated location. DO NOT let the machine or the wand freeze. Do not use outdoors.
3. Do not let the pump run dry.
4. Use approved chemicals only. NO SOLVENTS.
5. Wear gloves or use rags when removing quick disconnects to prevent burns.
6. Never use water above 130 °F/54 °C in the solution tank.

# IMPORTANT SAFETY INSTRUCTIONS

This machine is only suitable for commercial use, for example in hotels, schools, hospitals, factories, shops and offices other than normal residential housekeeping purposes.

When using any electrical appliance, basic precautions should always be followed, including the following:



**NOTE:** Read all instructions before using this machine.

## **WARNING!**

**To reduce the risk of fire, electric shock, or injury:**

- Do not leave the machine unattended when it is plugged in. Unplug the unit from the outlet when not in use and before servicing.
- To avoid electric shock, do not expose to rain or snow. Store and use, indoors.
- Do not allow to be used as a toy. Close attention is necessary when used near children.
- Use only as described in this manual. Use only the manufacturer's recommended attachments.
- Never add water over 130° F/54° C to the solution tank.
- Do not use with damaged cord or plug. If the machine is not working as it should, has been dropped, damaged, left outdoors or dropped into water, return it to a service center.
- Do not pull by the cord, use the cord as a handle, close a door on the cord, or pull the cord around sharp edges or corners. Do not run the machine over the cord. Keep the cord away from heated surfaces. To unplug, grasp the plug, not the cord.
- Do not handle the plug, the cord or the machine with wet hands.
- Extension cords must be 12/3 and no longer than 50 feet. Replace the cord or unplug immediately if the ground prong becomes damaged.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
- Keep loose clothing, hair, fingers, and all parts of body away from openings and moving parts.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes, or any health endangering dusts. Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
- Turn off all controls before unplugging.
- Use extra care when cleaning on stairs.
- Connect to a properly grounded outlet only.
- Liquid ejected at the spray nozzle could be dangerous as a result of its temperature, pressure, or chemical content.

**INSPECTION:**

Carefully unpack and inspect your SOLUS-500 for shipping damage. Each machine is tested and inspected before shipping. Any shipping damage incurred is the responsibility of the carrier. You should notify the carrier immediately if you notice damage to the box or to the machine or parts.

**CLEANING SOLUTIONS:**

We recommend liquid cleaning chemicals. Powder chemicals may be used, but unless mixed very thoroughly they could cause a build-up in the pump, lines, heat exchanger and/or quick disconnects. Any problem caused by a chemical build-up is not covered by warranty. Use a neutral cleaner with a pH between 5 and 10 to avoid premature wear of the pump, seals, and/or other components. Damage caused by the use of strong chemicals is not covered by the warranty.

**MAINTENANCE:**

For optimum performance flush the machine with clear water at the end of each working day. Once a month, minimum, run a flushing compound through the machine to break up any mineral or chemical build-up that may have formed. The vacuum motor, pump motor, and the pump do not require any scheduled maintenance; however, the motors may require replacement brushes after 1000 - 1500 hours, and the pump and bypass valve may require rebuild kits after 1000 - 1500 hours, typically (refer to machine part list for numbers). Clean the body with an all-purpose detergent, and protect it with an automobile interior polish. Lubricate the wheels, castors, and quick disconnects with an all purpose silicone spray.

**PARTS AND SERVICE:**

Repairs, when required, should be performed by your authorized distributor who maintains an inventory of original replacement parts and accessories. Call the distributor from whom you purchased this machine if you need parts and service. Be sure to specify the machine model. Have your serial number handy.

**SERIAL NUMBER:** \_\_\_\_\_

**MODEL:** SOLUS-500-B

**PURCHASE DATE:** \_\_\_\_\_

**NAME AND PHONE NUMBER OF YOUR DISTRIBUTOR:**

\_\_\_\_\_  
\_\_\_\_\_

(Be sure to register your purchase to activate your warranty)

**MODIFICATIONS**

Modifications and additions to the cleaning machine which affect capacity and safe operation shall not be performed by the customer or user without prior written approval from the manufacturer. Unapproved modifications will void the machine warranty and make the customer liable for any resulting accidents.

## KNOW YOUR MACHINE

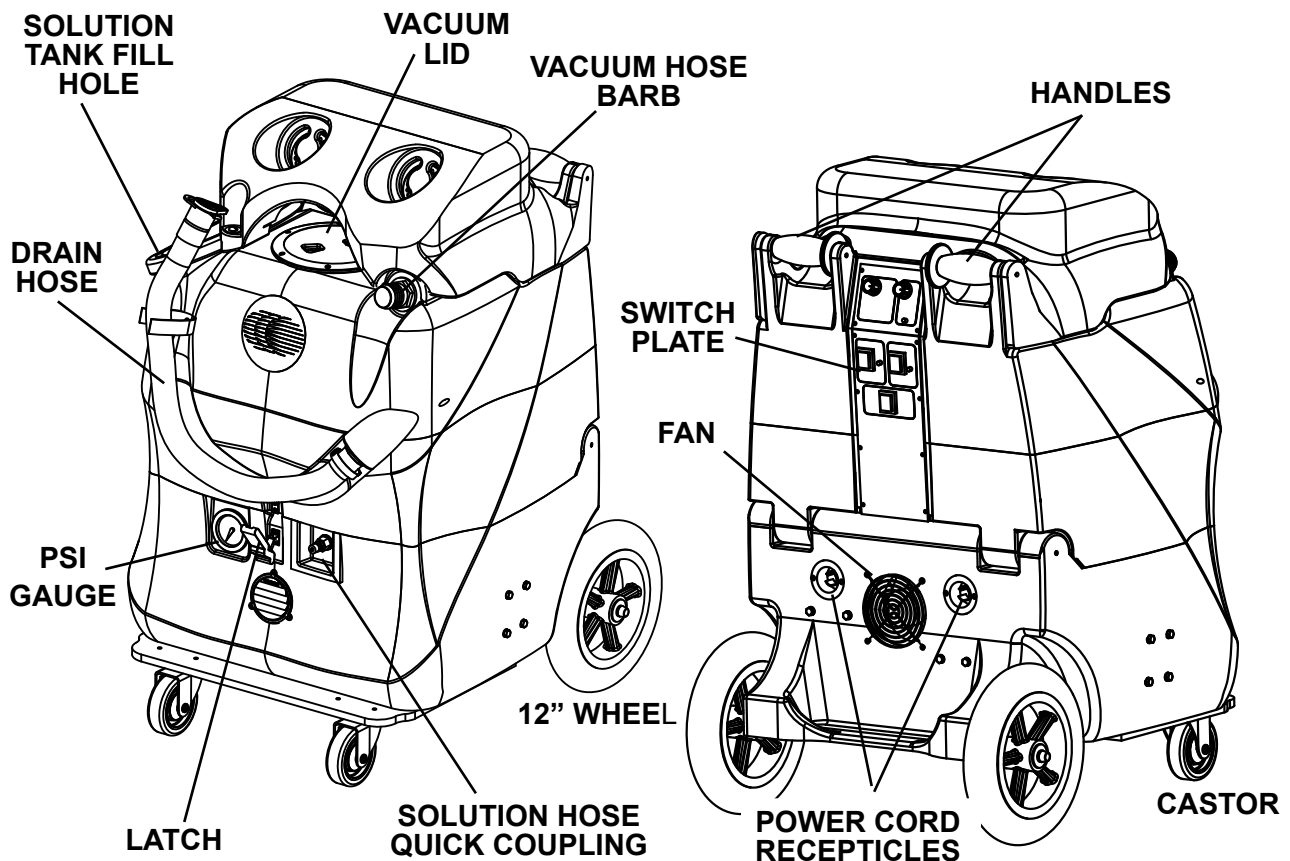
**VACUUM LID** - This lid provides access into your recovery tank so that you can clean the tank. The lid must be closed before you try to clean.

**SOLUTION TANK FILL HOLE** - This is where you fill the tank with water and cleaning solution.

**VACUUM HOSE BARB** - This is where you connect your vacuum hose to the machine. A tight connection is necessary to prevent a vacuum leak which would reduce the amount of suction.

**DRAIN HOSE** - This is how you empty the dirty water from your recovery tank. Place the hose over a drain, and open the cap. When cleaning out the tank at the end of a job, simply place this hose into a drain and use clean water to rinse out the dirt and debris from the tank. **NOTE:** be sure to close the cap tightly before using the machine again.

**HANDLES** - The handles are used to move the machine. These handles allow you to tilt the machine back onto its 12" wheels for easy maneuvering, and/or for moving on stairways.



**SWITCH PLATE** - The switches are located on the rear of the machine, out of the way of water.

**FAN** - Removes warm air from the component compartment.

**PSI GAUGE** - indicates the pump pressure. Look at the pressure while you spray.

**LATCH** - The latch holds together the tank and the base compartment.

**SOLUTION HOSE QUICK COUPLING**- This is where you connect the solution line that runs from the machine to the carpet wand or hand tool.

**POWER CORD RECEPTICLES** - The receptacles are where the two power cords connect to the machine.

**CASTOR** - Swivel castor provides easy maneuverability.

**WHEEL** - The rear wheels are 12 inches in diameter to provide superior ease of transportation and stair climbing.

## SWITCH PLATE

### HEAT CONTROL (1):

This dial controls the water temperature. Turn it clockwise to increase water temperature and counterclockwise to decrease temperature. The heater will operate only if the circuit locator light (#5) or the bypass switch (#6) is on.

### HEAT MODE LIGHT (2):

This light will only illuminate when the heater is heating and will turn off when it reaches operating temperature. During normal operation, the "MODE" light will be on most of the time.

### PUMP CONTROL (3):

This dial controls motor speed and pump pressure. Adjust the dial clockwise to increase pressure and counterclockwise to decrease pressure or turn off pump. The pump runs off of cord #1. The pump spraying pressure will be observable at the pressure gauge.

### VACUUM SWITCH (4):

This switch will illuminate when the vacuum motors are on. The vacuum motors run off of cord #1.

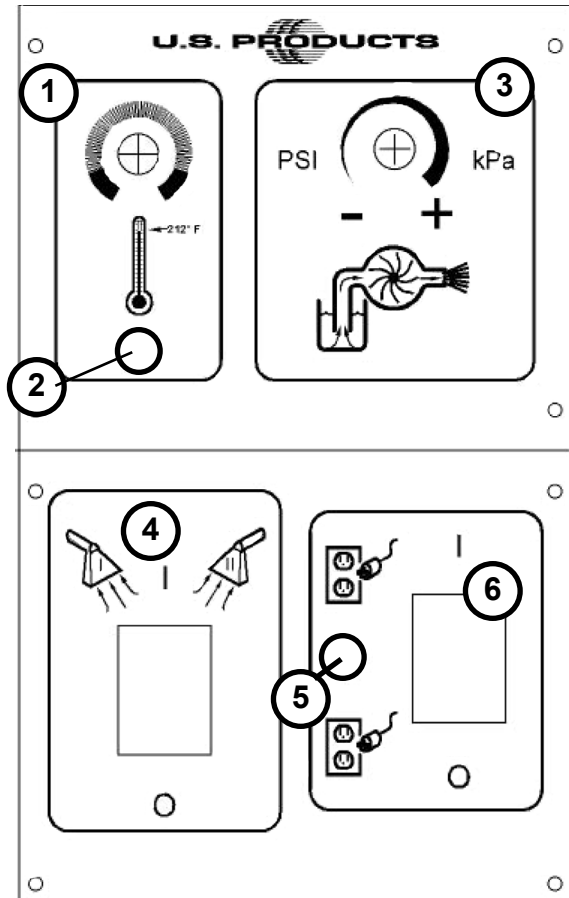
### CIRCUIT LOCATOR (5):

When this light is on, it indicates that cord #2 (Identified by the red "H" on the back of the extractor.) is on a separate line from cord #1. Cord #2 supplies voltage to the heater allowing it to heat to the temperature range indicated by the Heat Control dial (#1) on the switch plate.

### BYPASS SWITCH (6):

The bypass switch will illuminate when it is activated and will completely bypass the circuit locator system. Use this system only when the circuit locator light will not turn on and you know each cord is on a separate circuit.

## SOLUS-500 SWITCH PLATE



**CAUTION:** THE CIRCUIT BREAKER CAN TRIP IF BOTH CORDS ARE ON THE SAME CIRCUIT AND THE BYPASS (heat) SWITCH IS TURNED ON.

**NEVER LET YOUR MACHINE OR YOUR WAND FREEZE**

## SET-UP AND OPERATION:

1. Fill the holding tank with clear water and pre-spray with the detergent of your choice (we recommend a CRI approved chemical). Mix well. Although this machine is designed to supply instant hot water, the addition of warm water to the holding tank would increase heater efficiency.

Never use water above 130° F/54° C in the solution tank.

2. Turn off all the switches. Plug in cord #1. (This cord runs the pump and vacuum).
3. Attach the priming hose to the machine and place the open end into the tank.
4. Turn on the pump (turn pump pressure dial all the way clockwise) and let it run until the pump is fully primed (approximately 30 seconds to 1 minute). Once the pump is primed, turn off the pump and disconnect the priming hose. Attach the cleaning hose and tool.

### IF YOU WANT HEATED SOLUTION:

5. Plug in the heater cord (identified by "H" on the back of the machine). **NOTE:** If the green circuit indicator light does not illuminate when the heater cord is plugged in, then both cords are on the same circuit. Try other outlets until the light comes on. See Bypass Switch section (below) if you are unable to get a green light.

6. Turn the heat knob clockwise to the desired temperature.

7. Turn on the pump and spray through your tool a few times to fill the lines with solution. Begin cleaning.
8. Refill and empty the tanks as necessary.
9. When finished with the job, vacuum all unused solution into the recovery tank, and dump the tank. Clean the tanks and filters. Clean the tool and hoses. Store the machine in a heated location.

## ELECTRIC CIRCUIT LOCATOR:

This unique, patented "smart system," operated by a solid state circuit, will inform the operator when the two cords are plugged into separate lines by illuminating the green, indicator light. This helps prevent tripping circuit breakers.

## BYPASS SWITCH:

The bypass switch (#6) completely bypasses the circuit locator system. Use this feature when you cannot get the green Locator light (#5) to come on and you believe that the two cords are on separate circuits.



**CAUTION: If the bypass switch is on when the two cords are plugged into the same circuit, the breaker in the wall panel may trip.**

## AUTO VACUUM SHUTOFF:

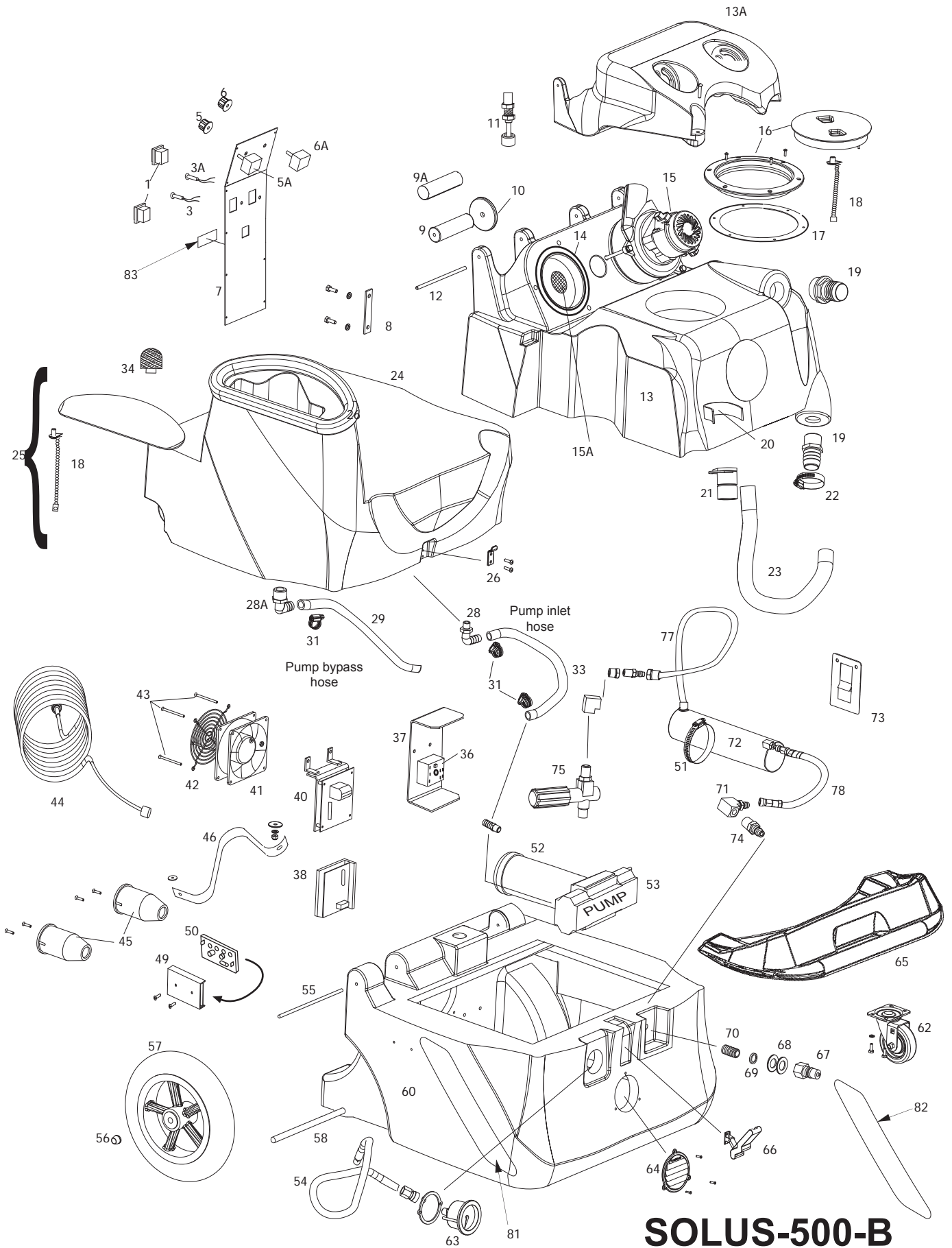
When the recovery tank is full, the float system will shut off the vacuum motor to prevent the machine from overflowing. The float may not work in foam. Always use a defoamer to prevent overflow. Once the vacuum motor shuts off, the vac switch (#7) must be turned off, the recovery tank emptied, and then the vacuum switch turned back on (up position) to get the vacuum motor started again.



**CAUTION: Always make sure the float is clean and travels freely before turning on the machine. A float that is stuck will cause the vacuum motor to suck in water, resulting in vac motor damage.**

## PUMP PRESSURE:

Make sure the cleaning tool is spraying when adjusting the pressure, otherwise the pressure reading will be inaccurate.



# SOLUS-500-B

**SOLUS-500-B**

Item	Ref. No.	Qty	Description
1	FP578	2	Switch, DPDT, with cover
[ ]		1	Switch Rocker DPST W/Light 120
[ ]		1	Sheet, Instruction, Switch
3	78B	1	Light, red
3A	78	1	Light, green
5	248	1	Knob, red
5A	FP544	1	Potentiometer, heat, w/wires & knob
[ ]		1	Potentiometer, 10K for Heat
[ ]		1	Knob, with Red Top for 1/4
[ ]		39in	Wire, Yellow, 18 Gauge 500
[ ]		37in	Wire, Red 18 Gauge
6	249	1	Knob, blue
6A	FP543	1	Potentiometer, pump, w/wires & knob
7	2093A	1	Switch plate
8	4404D	1	Mating bar
9	2106	2	Handle
9A	1590	2	Grip, handle
10	2105	2	Wheel, handle
11	FP478	1	Float, electric, water level
12	801E	2	Hinge pin 7"
13	VUPE-B	1	Tank, Vacuum
13A	VC-BLK1	1	Cover, for vacuum motors
14	2013A	2	Gasket, vacuum
15	408E	2	Vacuum motor, 120V
15A	1589	2	Screen, 1/8 S/S mesh
16	2086A	1	Lid & ring, vacuum
[ ]		1	O-Ring for 2086A Lid
[ ]		1	Lid
[ ]		1	Mounting Plate
17	1074	1	Gasket, vacuum lid
18	FP436	1	Chain, 8"
19	907	1	Hose barb, 1-1/2"
20	1130	2	Strap, Velcro, 9"
21#	56113071	1	Plug-Hose
22	1518	1	Hose Clamp
23	1060B	1	Hose, drain
24	HUPE-B	1	Tank, Holding
25	LUPE-B	1	Lid, Holding Tank
26	909A	1	Latch strike
28	1113	1	Hose barb, 90°, 1/2" hose
28A	1115	1	Hose barb, 90°, 3/8" hose
29	925	1	Hose, 3/8" ID X 17"
31	166	4	Hose clamp
33	946	1	Hose, 1/2" ID X 20"
34	207A	1	Filter, pump inlet
36			See Miscellaneous **
37	918	1	Heat Sink plate
38	FP361	1	Motor Speed Control PCB, pump
[ ]		1	Motor Speed Control
[ ]		1	Resistor-Horsepower .05 Ohm
[ ]		1	Instruction Sheet
40	FP225	1	Vacuum Motor Control PCB
41	2014	1	Fan, 120V
42	2015	1	Guard, fan
43	2B1	4	Screw, 6-32 X 2-1/4"
44	1057B	2	Power Cord, 12/3, 25 ft
45	1062	2	Receptacle, AC power in
46	1476	1	Strap, 17"
49	FP336	1	PCB mounting track, 4"
50	923B	1	Dual Cord Sensor PCB
51	198	1	Hose clamp
52	948B	1	Motor, DC, for pump

Item	Ref. No.	Qty	Description
53	FP592	1	Pump complete, no mtr
[ ]		1	Pump, Piston Style, 300-500 Psi
[ ]		1	Bearing & Cam Assembly
[ ]		2	Quick Connect, Plug, Brass
[ ]		1	Nipple, 1/4 Pipe, Brass
[ ]		1	Hose Barb 1/4 Pipe X 1/2 Hose
[ ]		1	Hose Barb, 90, Brass, 3/8"
[ ]		1	Elbow, 90 Degree 3/8" Brass
[ ]		1	Reducer, 3/8 Pipe Female
[ ]		2	Bushing 3/8 X 1/4 Pipe, Brass
[ ]		1	Elbow, 90 Deg 1/4" Mpt X 1/4"
[ ]		1	Plug, Brass Pipe, 1/4 Pipe
[ ]		1	Unloader Valve For 500 PSI
54	FP542	1	Hose assembly, pump to gauge
[ ]		1	Hose Pulsation Dampening 28"
[ ]		1	Quick Connect, Brass, 1/4 FPT
[ ]		1	Nipple, 1/4 Pipe, Brass
55	801D	2	Hinge pin 4.75"
56	27A	2	Axle Cap
57	2092	2	Wheel, 12"
58	910-2375	1	Axle rod
60#		1	Base <b>NOTE 1</b>
62	905	2	Castor, 4"
63	2165	1	Gauge, Pump pressure, with QD
64	928	1	Louver, 3", gray
65	FP585	1	Castor Plate
[ ]		1	Castor Plate Molded W/Handle Blk
[ ]		1	Instruction sheet
66#	56471194	1	Latch Assembly
67	45	1	Quick Disconnect, male. 1/4 p.t.
68	115	3	Washer, fiber
69	116A	1	Bushing, Teflon
70	92A	2	Nipple, 1/4 p.t. S/S
71	216	1	Elbow Brass
72	FP540	1	Heat Exchanger, complete
73	455	1	Mount bracket, heater
74	223	1	Quick Disconnect, male
75	945D	1	Unloader valve
77	FP547	1	Hose assembly, heater inlet
[ ]		1	Hose Assy, Swivel 48F to 4-6
[ ]		1	Elbow 90 Deg 1/8 x 1/8 P. Brass
78	2183	1	Hose, S/S, braided, heater outlet
81	56380994	1	Label-Belfor-Solus-Left
82	56380993	1	Label-Belfor-Solus-Right
83	56380692	1	Label, Danger Electric Shock
[ ]	4344	1	Label Gauge Priming Warning
[ ]	4325C	1	Label Heat Designation Power
[ ]	4339	1	Label Caution / Extension Cord

**MISCELLANEOUS PARTS**

Item	Ref. No.	Qty	Description
**	FP194E	1	Heat repair kit includes thermistor control, thermistor probe & cutout
**	950CP	1	Pump rebuild kit, valves & o-rings
**	250	1	Pump rebuild kit, piston & seals
**	FP538	1	Pump & motor complete w/unloader
[ ]		1	Plug Brass Pipe 1/4 Pipe H
[ ]		1	Elbow 90 Deg 1/4 Mpt X 1/4
[ ]		1	Elbow 90 Degree 3/8 Brass
[ ]		2	Bushing 3/8 X 1/4 Pipe Brass
[ ]		2	Reducer 3/8 Pipe Female To 1
[ ]		1	Tee Brass 1/4 Pipe
[ ]		4	Capscrew 1/4-20 X 2 X 1
[ ]		2	Quick Connect Plug Brass 1/
[ ]		1	Hose Barb 90 Brass 3/8 Ba
[ ]		1	Hose Barb 1/4 Pipe X 1/2 Hose.
[ ]		1	Nipple Pipe Stainless Steel 1/
[ ]		1	Unloader Valve For 500 Psi Pum
[ ]		1	Motor Dc Volt100v 300/500 P
[ ]		1	Bearing & Cam Assembly Size.0
[ ]		1	Pump Piston Style 300-500 Ps
[ ]		1	Thermostat Probe 120v. Tempert
**	FP619	1	Bag, Pre-filter for recovery inlet

Parts in kits are not sold separately.

# = Revised or new since last update

[ ] = Not Shown

\*\* = Optional, Not Included

# NOTE 1: Order part number 56381643 "Solus-500 Base Drill Complete".



## **TROUBLESHOOTING:**

### **IF THIS OCCURS**

### **CHECK THIS**

NO SPRAY	Solution tank is empty. Clogged spray tip. Pump not running or not primed. Valve on wand not operating.
PUMP DOES NOT RUN	Check the brushes in the pump motor. Replace if necessary. No power to pump. Test the Motor Speed Control Circuit Board and potentiometer.
LOW SUCTION	Debris is plugging cleaning tool or vacuum hose. Drain gate is not completely closed, or seals are damaged. Vacuum dome is not seated or is damaged.
NO SUCTION	No power to motor. Test the Electronic Float. Test the switch. Test the vacuum motor. Test the Vacuum Circuit Board.
LOW HEAT	Spraying too long. Try spraying for 12-15 seconds, or about three strokes. Heat exchanger needs to be flushed. Wrong tool being used. Too much water passing through. Longer hose or larger diameter hose, than standard.
NO HEAT	Heat is not turned on. Either the green light must be on or the bypass switch must be turned on. No power in the wall outlet - check to see if the breaker has tripped. No power to the bypass switch - check wiring for 'opens." No power out of bypass switch, follow troubleshooting steps to isolate the problem. Call your distributor for additional help.

*If you can not solve the problem from this chart, contact the distributor from whom you purchased your machine*

## **TECHNICAL SPECIFICATIONS (as installed and tested on the unit)**

<b>Model</b>	<b>Solus 500 Belfor</b>
Model No.	SOLUS-500-B
Roto-molded Body	Lifetime Warranty
Vacuum	Two 5.7", 3-stage
VAC Shutoff	Electronic
Pump	Positive displacement, fully adjustable 0-500 psi
Waterlift	100" -- 170 CFM
Heat	Adjustable to 212° F
Heater	2000 Watts
Wand	Stainless steel, double bend, twin tip
Weight	110 lbs.
Dimensions	24W x 28L x 41H (inches)

# SOLUS-500 EXTRACTOR 120V

NOTES: